

CONSULTING COMMUNICATIONS ENGINEERS

1306 W. County Road F, St. Paul, MN 55112  
(612) 631-1338 • Fax (612) 631-3502

**ENGINEERING EXHIBIT E-10  
APPLICATION FOR FM CONSTRUCTION PERMIT  
MISSISSIPPI VALLEY BROADCASTERS, INC.  
La CROSSE, WISCONSIN**

**CHANNEL 292 12 KW 145 METERS**

**SHORT SPACING STATEMENT**

A channel allocation study was performed to determine the area in which to locate a transmitter for channel 292C3 at La Crosse, WI. Upon completion of this study, it was determined that three stations would limit the available area to locate a transmitter and meet FCC spacing requirements. The three stations are WSPL La Crosse, KROC Rochester, and WLJY Marshfield. The available area was determined to be approximately 30 square kilometers. This area was calculated using a calibrated polar planimeter. Of this suitable area, a large majority consisted of residential area in the city of La Crosse, Mississippi River waterways, or the Upper Mississippi River Wild Life and Fish Refuge. After an extensive search of the remaining area, Mississippi Valley was unable to secure a suitable antenna site. The proposed antenna location was selected to minimize the short spaced condition to WLJY, provide La Crosse with 70 dBu signal and meet the additional requirements of FCC Rules Section 73.315.



CONSULTING COMMUNICATIONS ENGINEERS

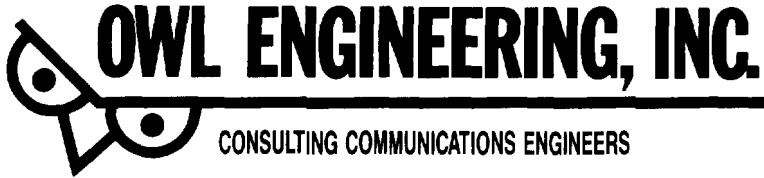
1306 W. County Road F, St. Paul, MN 55112  
(612) 631-1338 • Fax (612) 631-3502

**ENGINEERING EXHIBIT E-11  
APPLICATION FOR FM CONSTRUCTION PERMIT  
MISSISSIPPI VALLEY BROADCASTERS, INC.  
La CROSSE, WISCONSIN**

**CHANNEL 292 12 KW 145 METERS**

**CONTOUR OVERLAP STUDY**

Engineering Exhibit E-11A shows a tabulation of the protected and interfering contours for the proposed facility. Engineering Exhibit E-11B shows a tabulation of the protected and interfering contours for radio station WLJY. The protected contour is defined as the 60 dBu F(50,50) contour and the interfering contour is defined as the 54 dBu F(50,10) contour as per FCC Rules Section 73.215. The predicted distance to contours for WLJY assumed the maximum Height Above Average Terrain (HAAT) and maximum radiated power for a class C1 facility. Engineering Exhibits E-11C and E-11D show the plotted interfering and protected contours and demonstrate the lack of prohibited overlap. Engineering Exhibit E-11E shows the plotted interfering and protected contours of the proposed facility in all directions (360 degrees).



CONSULTING COMMUNICATIONS ENGINEERS

1306 W. County Road F, St. Paul, MN 55112  
(612) 631-1338 • Fax (612) 631-3502

## ENGINEERING EXHIBIT 11A

### PREDICTED CONTOURS, PROPOSED FACILITY

LATITUDE: 43° 48' 45"  
LONGITUDE: 91° 11' 55"

HAAT: 145 m

AZ (degs)	HAAT (m)	ERP (dBk)	CONTOUR LEVELS (dBu): 60.0 F(50,50)	54 F(50,10)
.0	134	10.79	37.6	57.3kilometers
9.0	108	10.79	34.3	52.8
10.0	109	10.63	34.2	52.7
11.0	113	10.47	34.5	53.0
12.0	118	10.31	34.8	53.5
13.0	123	10.16	35.1	53.9
14.0	128	10.00	35.4	54.2
15.0	131	9.84	35.5	54.3
16.0	133	9.68	35.4	54.1
17.0	132	9.52	35.1	53.6
18.0	131	9.36	34.7	53.0
19.0	131	9.20	34.4	52.6
20.0	133	9.04	34.4	52.5
21.0	138	8.88	34.6	52.8
22.0	144	8.72	35.0	53.2
23.0	150	8.56	35.3	53.6
24.0	153	8.41	35.5	53.7
25.0	155	8.25	35.3	53.5
26.0	155	8.09	35.0	53.1
27.0	155	7.93	34.8	52.6
28.0	157	7.77	34.6	52.4
29.0	159	7.61	34.6	52.3
30.0	161	7.45	34.5	52.1
31.0	162	7.29	34.3	51.8
32.0	164	7.13	34.2	51.6
33.0	167	6.97	34.2	51.6
34.0	170	6.82	34.2	51.6
35.0	173	6.66	34.2	51.5
36.0	176	6.50	34.2	51.3
37.0	178	6.34	34.0	51.1
38.0	179	6.18	33.8	50.8
39.0	179	6.02	33.6	50.8
40.0	178	6.18	33.8	50.7
41.0	176	6.34	33.9	51.0
42.0	175	6.50	34.1	51.2

Continued on next page.

## ENGINEERING EXHIBIT 11A CONTINUED

### PREDICTED CONTOURS, PROPOSED FACILITY

AZ (degs)	HAAT (m)	ERP (dBk)	CONTOUR LEVELS (dBu):	
			60.0 F(50,50)	54 F(50,10)
43.0	172	6.66	34.1	51.4kilometers
44.0	170	6.82	34.2	51.5
45.0	167	6.97	34.2	51.6
46.0	164	7.13	34.2	51.7
47.0	161	7.29	34.2	51.7
48.0	158	7.45	34.2	51.7
49.0	155	7.61	34.2	51.8
50.0	152	7.77	34.2	51.8
51.0	149	7.93	34.2	51.8
52.0	145	8.09	34.0	51.7
53.0	140	8.25	33.8	51.4
54.0	137	8.41	33.7	51.3
55.0	135	8.56	33.7	51.4
56.0	133	8.72	33.9	51.7
57.0	133	8.88	34.0	52.0
58.0	132	9.04	34.2	52.2
59.0	130	9.20	34.3	52.4
60.0	129	9.36	34.4	52.7
61.0	128	9.52	34.6	52.9
62.0	126	9.68	34.7	53.1
63.0	124	9.84	34.7	53.1
64.0	120	10.00	34.5	52.9
65.0	116	10.16	34.2	52.6
66.0	112	10.31	34.0	52.3
67.0	110	10.47	34.0	52.3
68.0	110	10.63	34.3	52.9
69.0	114	10.79	35.1	54.0
70.0	119	10.79	35.8	54.9
71.0	123	10.79	36.2	55.6
72.0	124	10.79	36.4	55.8
73.0	123	10.79	36.2	55.6
74.0	121	10.79	36.0	55.3
75.0	119	10.79	35.7	54.9
76.0	117	10.79	35.4	54.5
77.0	114	10.79	35.2	54.1
78.0	114	10.79	35.1	54.0
79.0	115	10.79	35.2	54.2
80.0	117	10.79	35.5	54.6
81.0	120	10.79	35.9	55.1
82.0	122	10.79	36.2	55.5

Continued on next page.



# OWL ENGINEERING, INC.

CONSULTING COMMUNICATIONS ENGINEERS

1306 W. County Road F, St. Paul, MN 55112  
(612) 631-1338 • Fax (612) 631-3502

## ENGINEERING EXHIBIT 11A CONTINUED

### PREDICTED CONTOURS, PROPOSED FACILITY

AZ (degs)	HAAT (m)	ERP (dBk)	CONTOUR LEVELS (dBu):	
			60.0 F(50,50)	54 F(50,10)
83.0	125	10.79	36.5	55.9kilometers
84.0	125	10.79	36.5	55.9
85.0	120	10.79	35.8	55.1
86.0	115	10.79	35.3	54.3
87.0	111	10.79	34.7	53.5
88.0	108	10.79	34.3	52.9
89.0	105	10.79	33.9	52.3
90.0	101	10.79	33.3	51.5
135.0	101	10.79	33.4	51.5
180.0	134	10.79	37.7	57.4
225.0	154	10.79	40.0	60.2
249.4	209	10.79	45.2	66.8
270.0	155	10.79	40.0	60.3
315.0	213	10.79	45.5	67.2



CONSULTING COMMUNICATIONS ENGINEERS

1306 W. County Road F, St. Paul, MN 55112  
(612) 631-1338 • Fax (612) 631-3502

## ENGINEERING EXHIBIT 11B

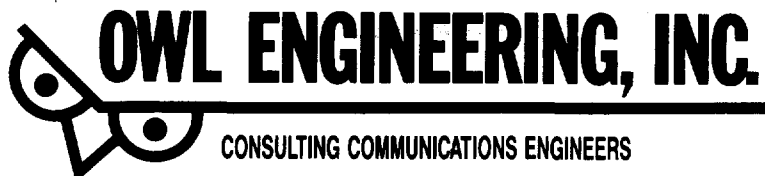
### PREDICTED CONTOURS, RADIO STATION WLJY

LATITUDE: 44° 38' 41"  
LONGITUDE: 89° 51' 11"

HAAT: 299 m  
ERP: 100KW (20 dBk)

AZ (degs)	HAAT (m)	ERP (dBk)	CONTOUR LEVELS (dBu):	
			60.0F(50,50)	54 F(50,10)
.0	295	20.00	71.7	105.0kilometers
45.0	299	20.00	72.0	105.4
90.0	305	20.00	72.4	105.9
135.0	307	20.00	72.6	106.2
180.0	297	20.00	71.9	105.2
210.0	299	20.00	72.0	105.4
211.0	299	20.00	72.0	105.4
212.0	298	20.00	71.9	105.3
213.0	298	20.00	71.9	105.3
214.0	298	20.00	71.9	105.3
215.0	298	20.00	71.9	105.3
216.0	298	20.00	71.9	105.3
217.0	299	20.00	72.0	105.4
218.0	299	20.00	72.0	105.4
219.0	299	20.00	72.0	105.4
220.0	300	20.00	72.0	105.5
221.0	300	20.00	72.0	105.5
222.0	300	20.00	72.1	105.5
223.0	300	20.00	72.1	105.5
224.0	301	20.00	72.1	105.6
225.0	301	20.00	72.1	105.6
226.0	301	20.00	72.1	105.6
227.0	301	20.00	72.1	105.6
228.0	301	20.00	72.1	105.5
229.0	300	20.00	72.1	105.5
230.0	300	20.00	72.1	105.5
231.0	300	20.00	72.1	105.5
232.0	300	20.00	72.1	105.5
233.0	300	20.00	72.1	105.5
234.0	300	20.00	72.1	105.5
235.0	300	20.00	72.1	105.5
236.0	300	20.00	72.1	105.5

Continued on next page.



1306 W. County Road F, St. Paul, MN 55112  
(612) 631-1338 • Fax (612) 631-3502

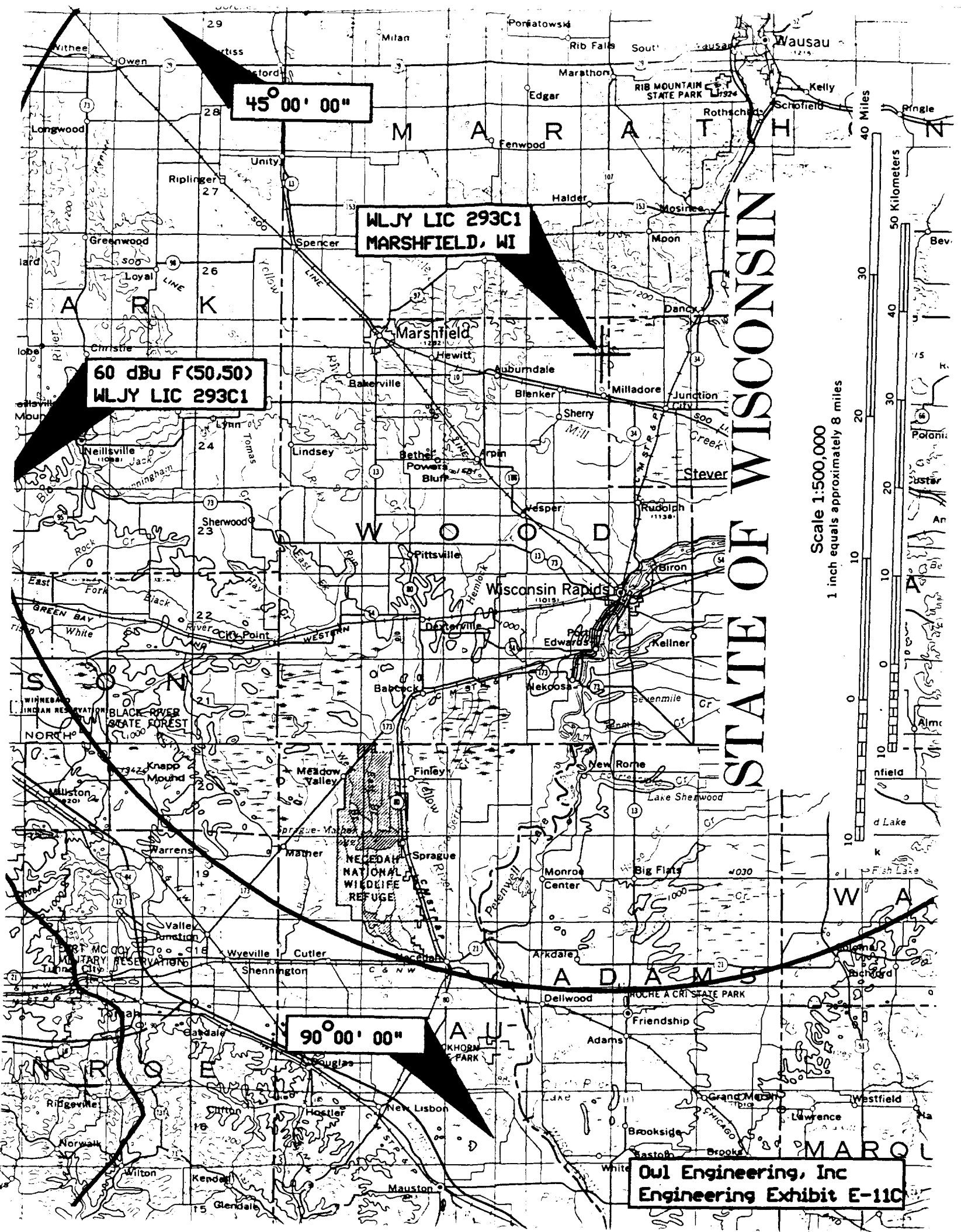
## ENGINEERING EXHIBIT 11B CONTINUED

### PREDICTED CONTOURS, RADIO STATION WLJY

LATITUDE: 44° 38' 41"  
LONGITUDE: 89° 51' 11"

HAAT: 299 m  
ERP: 100KW (20 dBk)

AZ (degs)	HAAT (m)	ERP (dBk)	CONTOUR LEVELS (dBu): 60.0F(50,50)	54 F(50,10)
237.0	300	20.00	72.1	105.5kilometers
238.0	300	20.00	72.0	105.5
239.0	300	20.00	72.0	105.5
240.0	299	20.00	72.0	105.4
241.0	299	20.00	72.0	105.4
242.0	299	20.00	72.0	105.4
243.0	299	20.00	72.0	105.4
244.0	299	20.00	72.0	105.4
245.0	298	20.00	71.9	105.3
246.0	298	20.00	71.9	105.3
247.0	297	20.00	71.9	105.3
248.0	297	20.00	71.8	105.2
249.0	297	20.00	71.8	105.2
250.0	297	20.00	71.8	105.2
270.0	290	20.00	71.3	104.5
315.0	298	20.00	71.9	105.3



45° 00' 00"

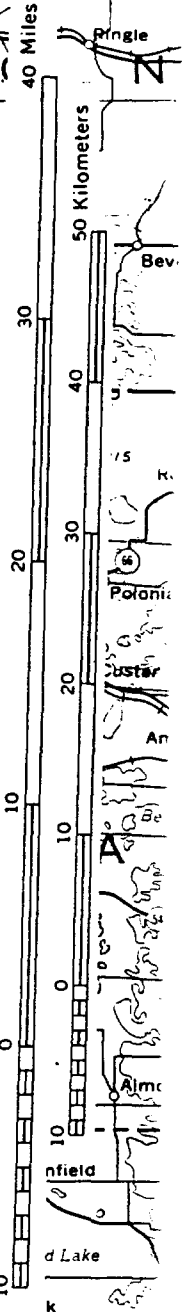
WLJY LIC 293C1  
MARSHFIELD, WI

60 dBu F (50,50)  
WLJY LIC 293C1

90° 00' 00"

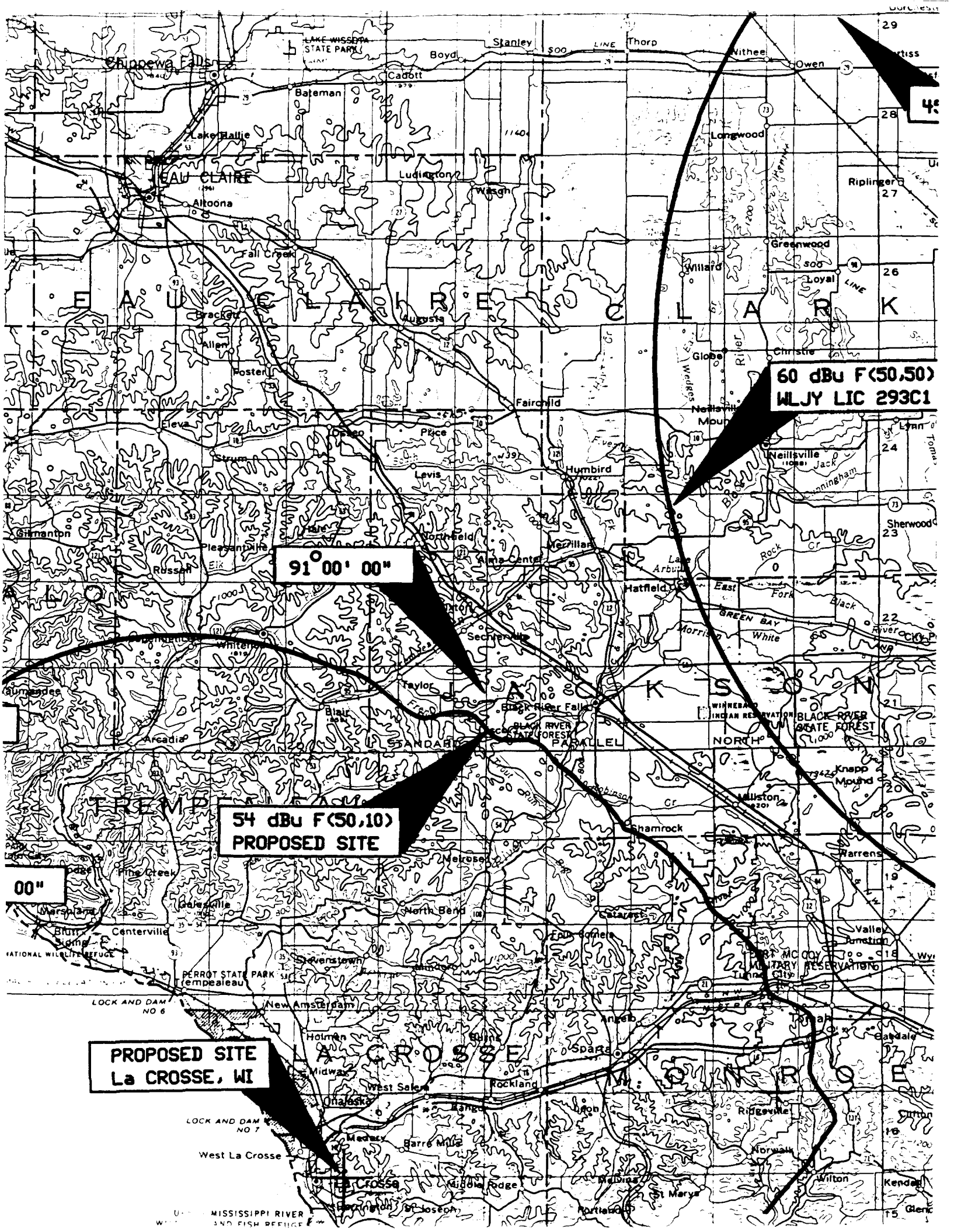
STATE OF WISCONSIN

Scale 1:500,000  
1 inch equals approximately 8 miles



Owl Engineering, Inc  
Engineering Exhibit E-11C





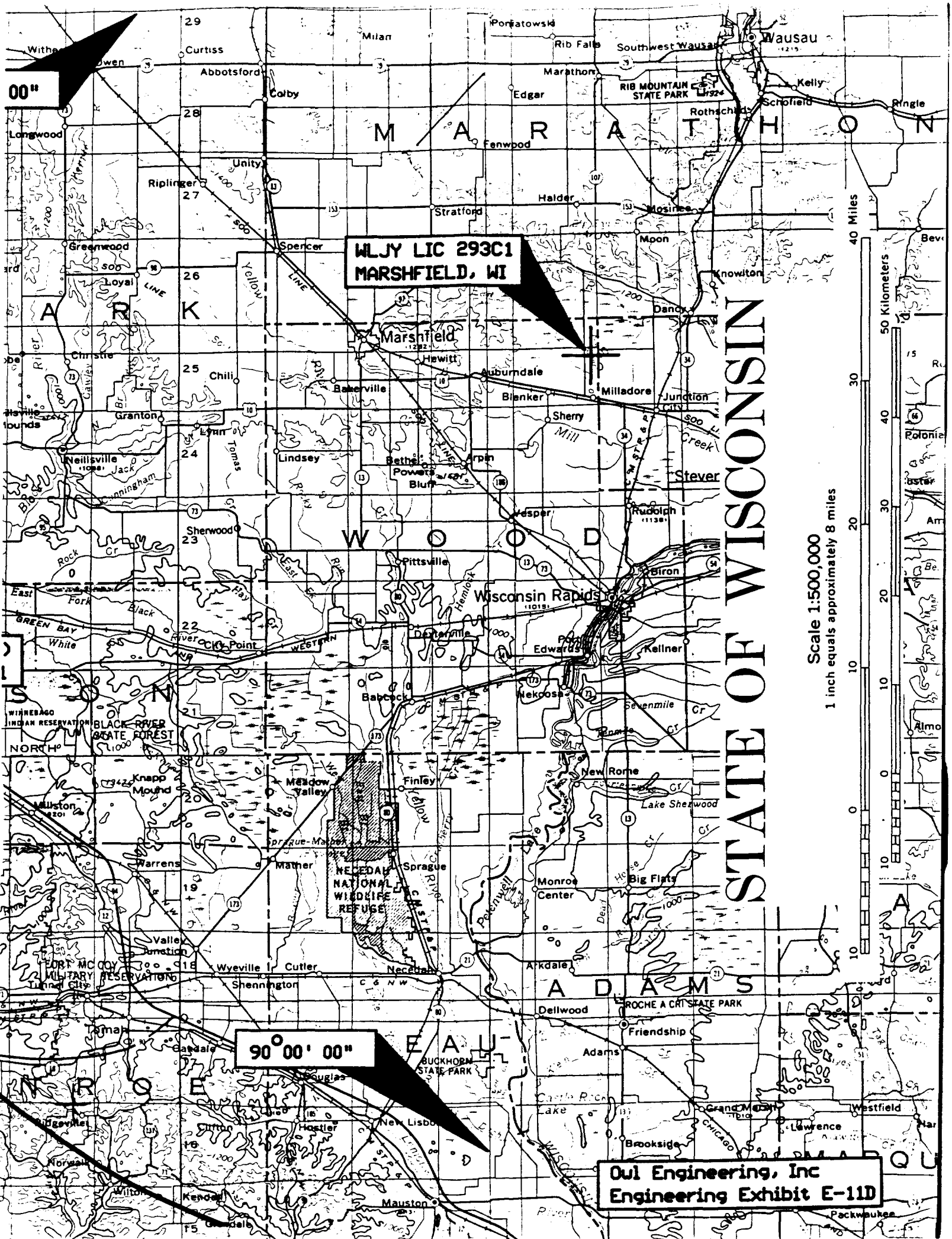
60 dBu F(50,50)  
WLJY LIC 293C1

91° 00' 00"

54 dBu F(50,10)  
PROPOSED SITE

PROPOSED SITE  
La CROSSE, WI

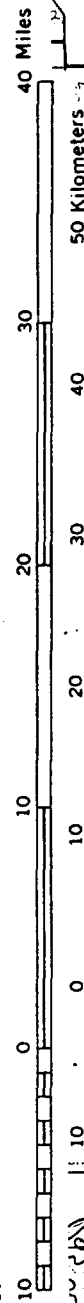




WLJY LIC 293C1  
MARSHFIELD, WI

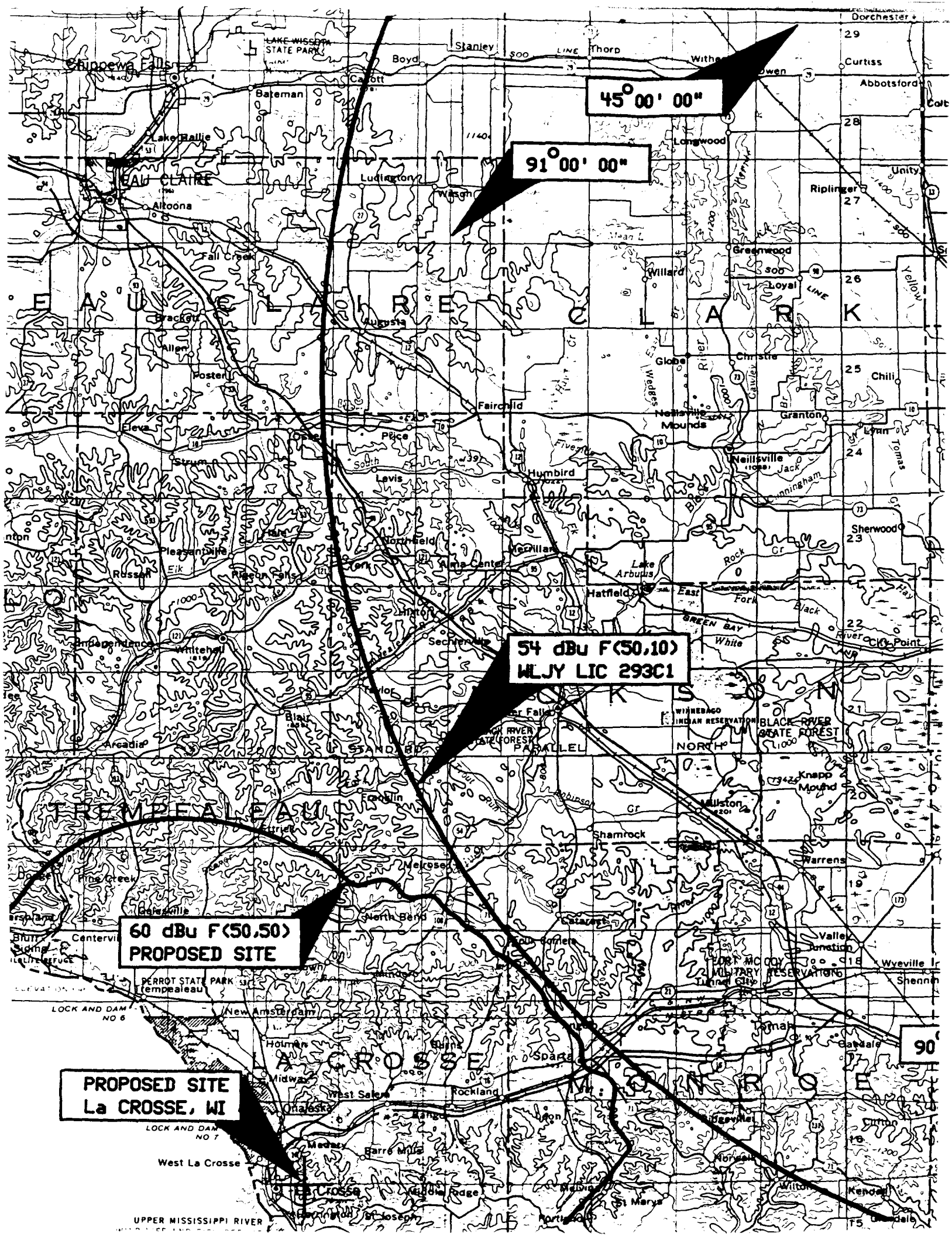
STATE OF WISCONSIN

Scale 1:500,000  
1 inch equals approximately 8 miles



90° 00' 00"

Oul Engineering, Inc  
Engineering Exhibit E-11D



45° 00' 00"

91° 00' 00"

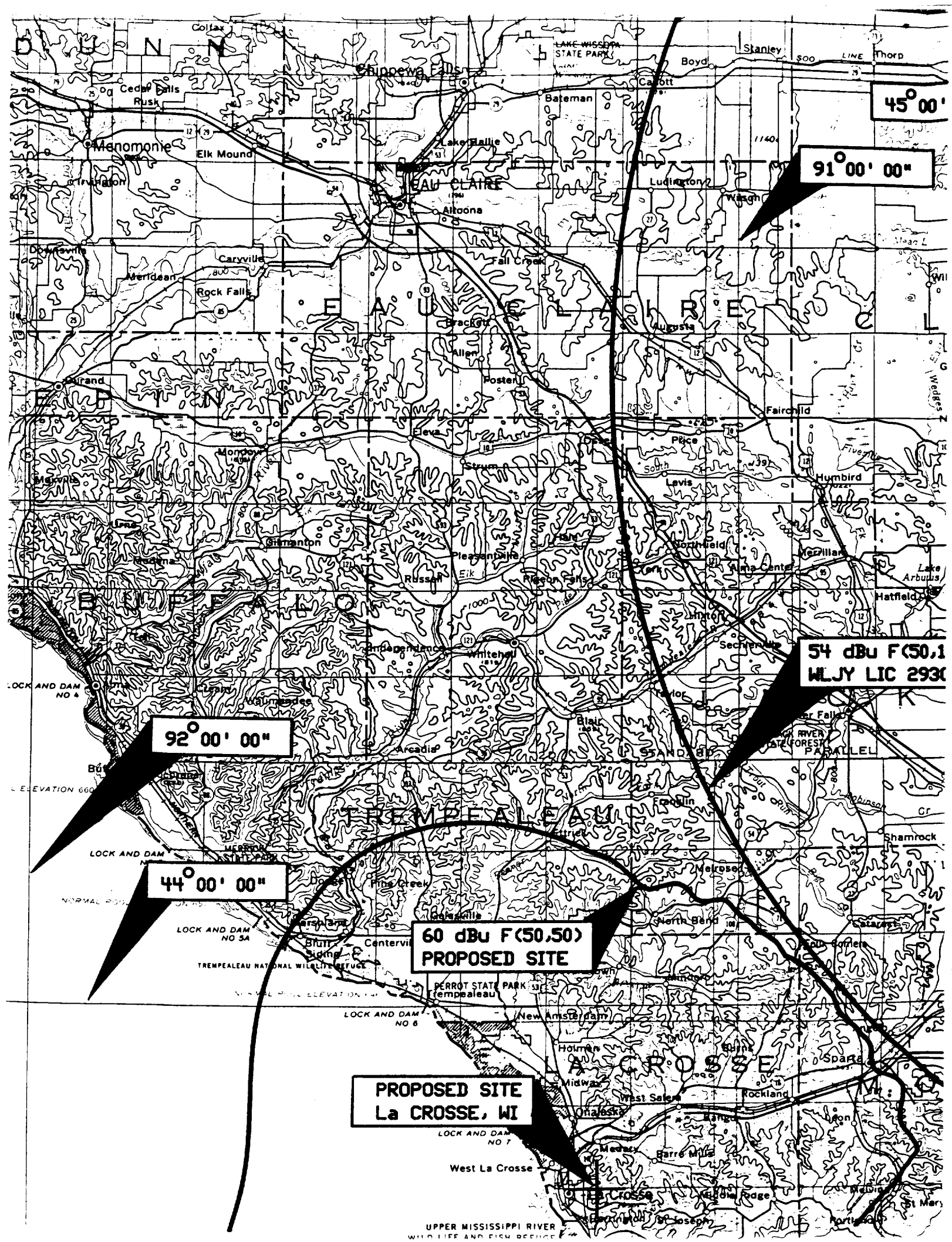
54 dBu F(50,10)  
WLJY LIC 293C1

60 dBu F(50,50)  
PROPOSED SITE

PROPOSED SITE  
La CROSSE, WI

90°





45° 00'

91° 00' 00"

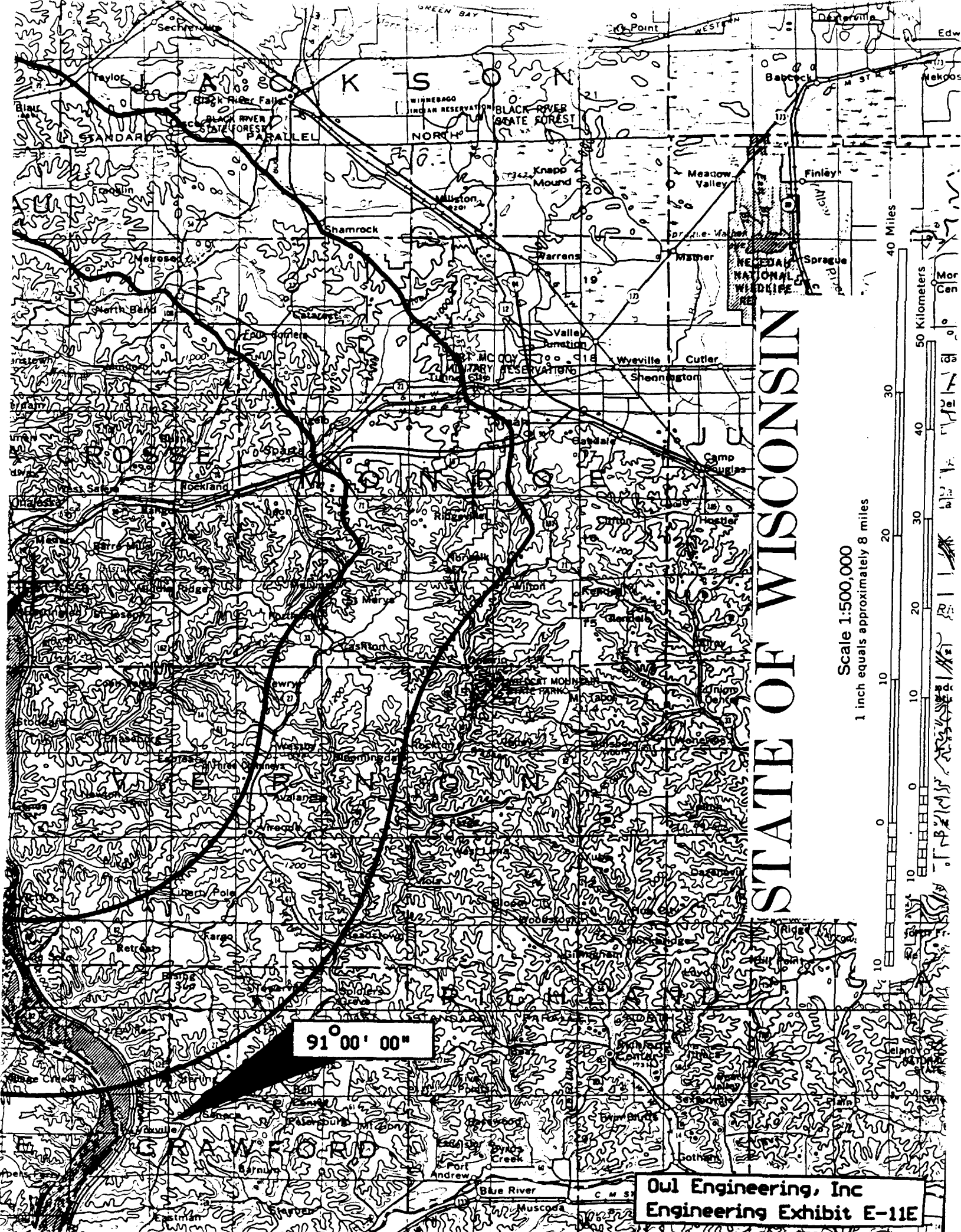
54 dBu F(50.1)  
WLJY LIC 2930

92° 00' 00"

44° 00' 00"

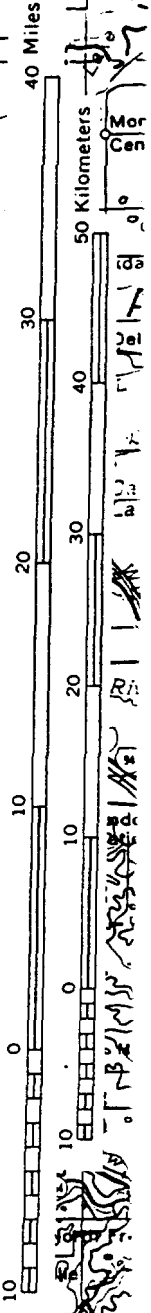
60 dBu F(50.50)  
PROPOSED SITE

PROPOSED SITE  
La CROSSE, WI



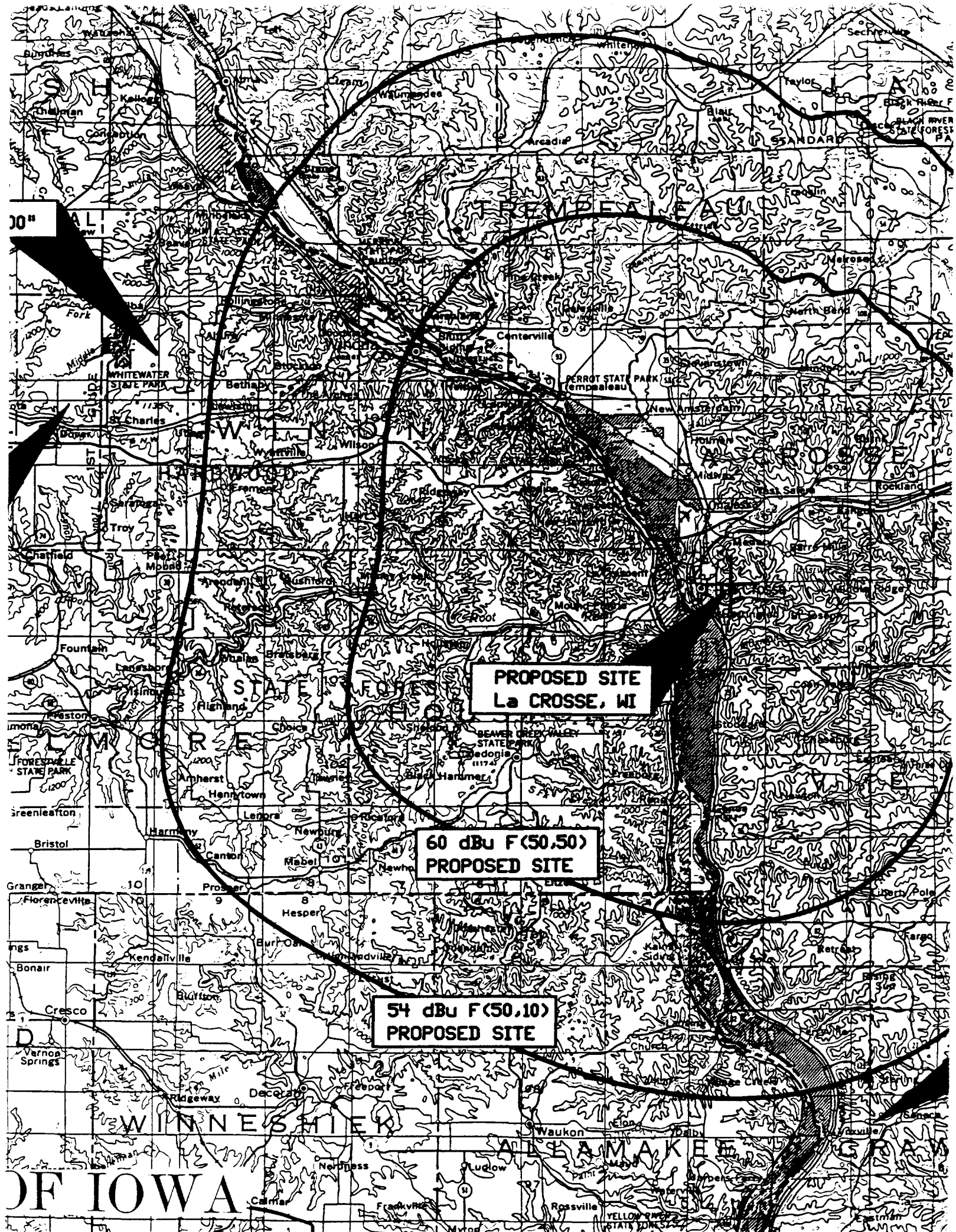
# STATE OF WISCONSIN

Scale 1:500,000  
1 inch equals approximately 8 miles



91° 00' 00"

Owl Engineering, Inc  
Engineering Exhibit E-11E



10"

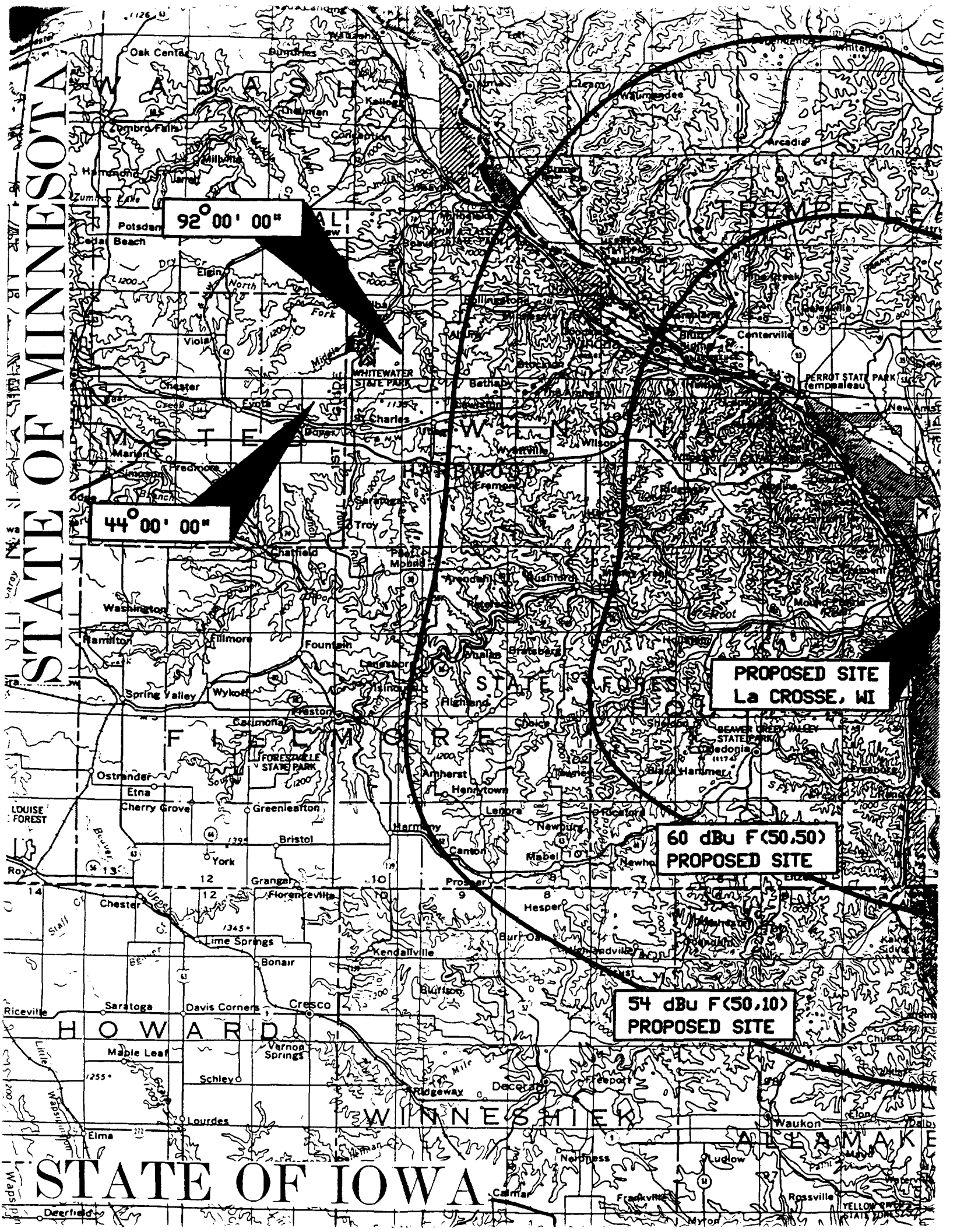
**PROPOSED SITE**  
**La CROSSE, WI**

**60 dBu F (50,50)**  
**PROPOSED SITE**

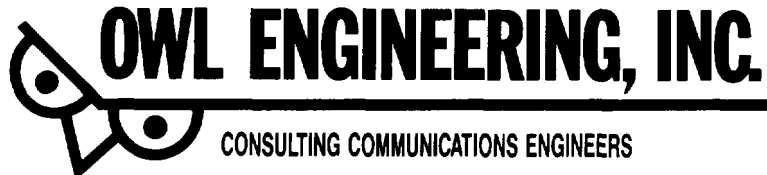
**54 dBu F (50,10)**  
**PROPOSED SITE**

**OF IOWA**









CONSULTING COMMUNICATIONS ENGINEERS

1306 W. County Road F, St. Paul, MN 55112  
(612) 631-1338 • Fax (612) 631-3502

**ENGINEERING EXHIBIT FOR  
APPLICATION FOR FM CONSTRUCTION PERMIT  
MISSISSIPPI VALLEY BROADCASTERS, INC.  
La CROSSE, WISCONSIN**

**CHANNEL 292 12 KW 145 METERS**

**AFFIDAVIT**

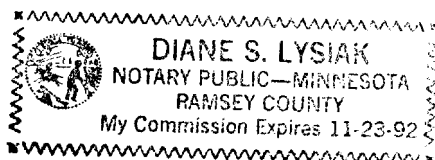
RAMSEY COUNTY                    )  
  )  
STATE OF MINNESOTA            )       ss:

Garrett G. Lysiak, being first duly sworn, says that he is president of Owl Engineering, Inc., consulting communications engineers with offices in Arden Hills, Minnesota: that his qualifications as an expert in communications engineering are a matter of record with the Federal Communications Commission: that the foregoing exhibit was prepared by him and under his direction; and that the statements contained therein are true of his own personal knowledge except those stated to information and belief and, as to those statements, verily believes them to be true and correct.



*Garrett G. Lysiak*  
Garrett G. Lysiak, P.E.

Subscribed and sworn to before me this date January 14, 1991.



*Diane S. Lysiak*  
Diane S. Lysiak  
Notary Public

My commission expires November 23, 1992